***Statistics: Where do these countries belong?***

**Portal: Evidence and Interpretation**

**Critical Challenge**

Critical Tasks

Create a profile of a specific country based on a set of statistics.

Overview

In this two-part challenge, students will carefully examine a set of statistics to determine the most likely location of the country and then create a profile of what life is like in that country – commenting on the social situation, the economics and the political life.

**Objectives**

**Broad Understanding**

Students will demonstrate an understanding of how to read/interpret quality of life indicators and/or population characteristics (statistics) by:

* drawing inferences from the data
* using a variety of thinking strategies for examining statistical tables
* translating inferences into a profile of a place

Students will understand that different regions of the world face different social, political and economic situations.

**Requisite tools**

*Background knowledge*

\* knowledge of population characteristics/quality of life indicators – literacy rate, life expectancy, GDP/capita, infant mortality, fertility rate, birth rate, death rate, access to clean water

\* knowledge of how to read statistical tables

\* knowledge of how to use statistics to explain the quality of life in a county

*Criteria for judgement*

Criteria for making a plausible inference

- is consistent with the evidence provided

- is consistent with our background knowledge

- corroborated by other information

*Critical thinking vocabulary*

**Criteria:** A set of standards, rules or tests by which something can be measured or judged

**Inference:** A conclusion one draws based on assumptions.

*Thinking strategies*

Think-pair-share

Brain storrm

Ideas Web

*Habits of Mind*

**Open-minded:** is open to views other than one’s own

**Tolerant of Ambiguity:** Is willing to live with ambiguity—doesn’t require black-or-white answers.

***Suggested Activitives***

**Pre-planning**

\*Make sure that students have a good understanding of the quality of life indicators/population characteristics.

\*Make sure that students have had an opportunity to interpret these indicators and understand how they relate to each other and help people understand the living conditions of countries.

\* Have atlases available – both print and on line

\* Photocopy blackline masters

**Session One**

|  |  |
| --- | --- |
| **In this section, students will:** | **Instructions to the teacher** |
| *Activate Prior Knowledge* | Invite students to individually brainstorm what factors improve a person’s quality of life. You may wish to use the structure of a placemat strategy to facilitate this activity. For ideas and instruction on how you might structure a placemat activity, see BLM #1: Placemat – A structure to facilitate small group discussion.  Invite each group to take turns sharing one of their factors with the class. Record their ideas on chart paper, the board or on an interactive white board. Student answer might include:  - good food  - access to education  - healthy living environment  - good quality housing  - safe living environment  - supportive family and friends  - ability to buy necessities  Add to the students’ list any major indicators that are missing. |
| *Practice “inferring” about factors that affect quality of life* | Invite students to think about the connections between the various factors they have listed. Ask students work in pairs to draw arrows between the indicators that relate to each other. You may wish to provide each group with a piece of chart paper on which they can list all the factors in a web diagram and then draw arrows between various factors. Ask students to use different coloured arrows for each set of connections.  You may wish to model one set of connections such as – ability to buy necessities, good food, good quality housing.  Invite students to circulate around the room to see other groups connections. Ask one partner to remain with their web in order to explain the connections and the other partner to circulate. You may wish to ask them to switch after the first partner has visited a couple of other groups.  Once the partners have returned to their own ideas web, they may choose to add more connections to their own web.  Invite partners to now share one set of connections with the class and then discuss how the indicators relate and what they may tell us about the quality of life in a country/region of the world.  **Critical Thinking Vocabulary**  Suggest that what students have been doing is making inferences about the ways that different factors affecting quality of life are related to one another. As they shared their rationale with the class, they have been justifying those inferences.  Suggest that whenever we make inferences, we need to check whether those inferences make sense, that is, whether they are plausible. This requires some criteria for us to check our inferences against. |
| *Build criteria for a plausible inference*  **Criteria** | Once all groups have shared one of their connection sets, ask the class – how did they make their inference about the quality of life in a country/region? Lead the class in a discussion around making a plausible inference. It may be helpful to start by making an implausible inference, eg: a country that has a high literacy rate will probably have a very low life expectancy. This will help students understand the meaning of plausible as well as how indicators relate to each other.  From this discussion, draw out the criteria for a plausible inference on the board or chart paper. A plausible inference is one that:  1. Is based on an accurate reading of the evidence  2. Is consistent with our background knowledge and/or corroborated by other sources of evidence  Explain that during this lesson they will be examining statistics and making inferences about quality of life in other countries. |
| *Consider specific indicators of quality of life* | Invite students to consider how we could find out about whether or not people have a high quality of life. Suggest that statistics for some factors they have suggested might be easily found (e.g. life expectancy, literacy rate) but others might be more difficult to determine (e.g. good food, good quality housing). Explain that each factor requires some specific indicators that could be measured so we can compare and examine data.  **Opportunity for Differentiation**  *You may wish to have students uncover the types of statistics that could be gathered in order to measure each factor related to quality of life. Consider dividing the factors they have brainstormed among different groups or pairs of students and inviting each group to brainstorm which statistics might provide clues for each factor. You may wish to model the first one; for example, if we were trying to determine whether a country’s people had access to education we might look at information regarding: number of schools in proportion to the population; ages that students started and completed schooling; percentage of students who continue to post-secondary education; training levels of teachers, etc.*  Invite students to practice making inferences from statistics using BLM #1: Quality of life indicators – What can they tell us? |
| *Be introduced to the concept of Evidence and Interpretation* | Suggest to students that once we examine the evidence provided by statistics carefully, we can draw inferences and then make interpretations about what it might be like to live in a particular country. Explain that geographers’ regularly examine evidence and make interpretations from that evidence. They also assess interpretations by deciding whether there is sufficient evidence to support that interpretation.  Explain that students will be practicing thinking about evidence and interpretations during this critical challenge. |

**Session Two**

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| **In this section, students will:** | **Instructions to the teacher** |
| *Be introduced to the challenge*  **Habit of Mind** | Provide students with the following scenario: You have been given one of six sets of population characteristics. The problem is that nobody remembers which part of the world these six countries represent. Your task is to read over the population characteristics and decide where you think the country may be located in the world. You will then create a profile of that country, commenting on the social, political and economic situation. Your profile is to be presented to a group of leading demographers so it is important that you justify your ideas.  Explain to students that you are less concerned whether they come up with the correct country than you are with their reasoning skills. Suggest that since you want them to develop their reasoning skills, you are going to hold off sharing the “right answers” which might frustrate some of them. Suggest that it will be important to be **tolerant of ambiguity**, that is to be willing to live with uncertainty rather than requiring black-or-white answers. |
| *Explore the statistics*  **Habit of Mind** | Hand out the Country Statistic Cards (BLM #2: Country Statistic Cards) so that each student receives one country and so that the countries are evenly distributed across the class.  ***Opportunity for differentiation:*** *You might consider forming groups in a less random way by handing out cards initially based on pre-formed groups. Those groups might be formed based on social or academic needs of students.*  Invite students to individually read their cards and be given time to write down some of their initial observations and inferences about where the country is located and what life is like in that country.  Remind students to use the criteria to check to see if their inferences are plausible.  Once all students have their own ideas written down they should form into groups based on the Country Statistic Card they were given. (All Country A’s should be together etc…)  Remind students that as they hear from their classmates, it will be important to remain **open-minded**. As a class discuss the idea of being open-minded. Have students share their ideas of what it means to be open minded and how being open-minded might help their learning at this stage. Invite them to also share some of the drawbacks of being closed-minded at this stage in their learning.  ***Opportunity for differentiation:*** *Allow students the opportunity to jot down their ideas on the computer or they can have someone scribe their ideas for them. If a student does not like to read their own work they can ask to have someone read their ideas for them. If students have difficulty taking notes while peers present, consider photocopying notes for them ahead of time.*  Invite students to each share their individual inferences with the group.  **Assessment for Learning:**  *As students share their thinking, invite group members to use the criteria for a plausible inference to assess the inferences as they are shared. You may wish to provide students with BLM #3: Assessing Inferences to guide the peer-assessment process.* |
| *Transition to independent practice* | Invite students to summarize in their own minds, the steps they used when trying examining the statistics.  Ask them to share their ideas with a partner.  Considering capturing their ideas as a series of steps and posting these steps on the wall for future reference. For example, a summary of their thinking strategies might include:  - Look at individual statistics and make inferences  - Group together statistics (e.g. Fertility rate and infant mortality rate) and make inferences or check inferences for corroborating evidence  - Think about what I already know about certain countries and regions and check my inferences against that background knowledge  - Talk to others to hear their ideas before I make up my mind  Inform students that they will be practicing what they have learned about interpreting statistics with a more complex example next. |

**Session three**

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| **In this section, students will:** | **Instructions to the teacher** |
| *Practice thinking strategies with a more complex example* | Review the thinking strategies brainstormed by students in the last session. Suggest that we can use these thinking strategies systematically when we are working with a complex set of statistics.  Model how to use the thinking strategies by leading the class through a discussion of the statistics provided on BLM #4: What can we tell about this country? Consider projecting the statistics or providing copies to students so they can easily refer to them.  Provide students with the organizer on BLM #5: Generating inferences from statistics. Consider modeling the task by thinking aloud as you fill in one idea in the first row and then inviting students to work with a partner to generate a second inference in the same row – i.e. using the same thinking strategy. Continue through each row to allow students to both see the thinking strategy at work and also have an opportunity to practice the thinking strategy themselves.  (FYI: The country is China) |
| *Independent Practice* | Invite students to work in pairs to tackle their next challenge. Provide students with a similarly extensive set of statistics about a country, a province or a region. These might relate directly to the unit the class is currently working on.  Provide another blank copy of BLM #5: Generating Inferences from Statistics. Invite students to work independently to fill out the organizer and then discuss their ideas with their partner.  Remind students to use the criteria to check that their inferences are plausible.  **Opportunity for Differentiation:**   * *Provide some students with more or fewer statistics depending on their readiness.* * *Provide some students with statistics that are already converted into percentages or ratios while others have statistics that need to be converted in order to see relationships.*   **Assessment for Learning:**   * *Assess inferences for plausibility before students move on to the next stage.* |
| *Extend inferences to create a profile of the country* | Present the critical task: *Provide a profile of the prevailing social, economic and political conditions of your assigned country based on the statistics provided.*  Invite students to use the specific inferences they have generated to consider the overall social, economic and political conditions that exist in the country.  **Opportunity for Differentiation:**   * *Invite some students to consider the population as a whole and others to consider how the conditions might differ for different segments of the population*   Provide students with BLM #6: Developing a country profile.  Invite students to work individually or in pairs to create their country profile, stating where they think the country is located and their comments on the social, political and economic situation in the country. Students need to make sure that they back up their inferences and have used the criteria for a plausible inference. |
| *Present final product* | You may wish to invite groups to present their country profiles to the class. The students who are listening will be responsible to fill out a plausible inference assessment sheet for two of the groups. |
| *Nurturing self-regulated thinking* | Consider gradually releasing responsibility to students for selecting the thinking strategies that would be most helpful when they assess evidence and conclusions as the course progresses.  Initially, you might require or encourage students to use various thinking strategies they have been introduced to here.  As time progresses and students become more adept at using these thinking strategies, consider moving them toward self-regulated thinking by encouraging them to select which thinking strategies might be most useful when faced with similar challenges. |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher Backgrounder #1

**Placemat**

What:

- a questioning technique that facilitates small group discussion

Why:

- to increase accountability

- to engage all students in thinking about a question

- to raise the quality of student answers by giving students time to think and to share their answers

- to nurture effective group work, attentive listening and consensus building skills

- to reduce management problems

When to use it:

- when you are having students work in small groups (3-4 students)

- when you want them to brainstorm effectively

- when you want them to narrow down, sort, classify or combine their ideas

- when you want to formatively assess each students level of understanding or previous knowledge

Prep:

- Arrange students in groups of 3-5 and provide each group with a piece of chart paper.

- Ask one student (e.g. “Number 1s”) in each group to draw a placemat on the chart paper.

- Ask each student to initial their own section (to make sure that they have identified which section they will write in)

- Explain to students that, during a placemat activity, students will have a short amount of time (e.g. 2 minutes) to silently and individually respond to a question in their own section and then will wait for instructions for how to proceed.

**Steps:**

1. Share the question they will respond to (e.g. “Brainstorm all the factors that indicate that someone has a good quality of life”) and provide them a short amount of time to individually answer in their own section.

2. Invite students to share their responses. Consider using a round robin structure to facilitate sharing (e.g. “Number 2s start by sharing 1 idea, Number 3s share next, etc.). While sharing you might ask students to categorize their ideas or check off similar ideas on their own list.

3. Bump up student thinking by asking them to collaborate on a second question that they answer collectively in the middle (e.g. rank order your categories from highest to lowest priority; select the 4 most important indicators)

**Placemat Formats**

There are a number of ways to draw a place mat depending on how many students are in each group and the seating arrangements in the classroom.

**Some Options:**

**Placemat Template**

First, write quietly on your own in your section of the

border for several minutes.

Second, through group sharing of ideas and experiences, gather common concerns, concepts, and ideas in this section of the place mat

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #1

**Quality of Life Indicators: What can they tell us?**

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| --- | --- | --- | --- |
| **Indicator / Statistic** | **Which factor affecting quality of life might this tell us about?**  *(e.g. acess to good quality housing, access to education, safe living environment, etc.)* | **What could we infer from this evidence?**  *i.e. What might this tells us about quality of life?* | **Which other indicator might help corroborate this inference?**  *Think about other indicators that are listed or additional statistics that might be valuable.* |
| Average Income  (or GDP per capita) |  |  |  |
| Average number of persons per room |  |  |  |
| Distance from centre of census subdivision to nearest hospital |  |  |  |
| Infant mortality rate |  |  |  |
| Life Expectancy of males vs. females |  |  |  |
| Fertility Rate |  |  |  |
| Incidence of personal crime |  |  |  |
| Female participation rate in workforce |  |  |  |
| Number of family physicians per thousand people |  |  |  |
| Unemployment rate |  |  |  |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher Backgrounder #2

**Quality of Life Indicators**

The following information is taken directly from the Atlas of Canada online available at: http://atlas.nrcan.gc.ca/auth/english/maps/peopleandsociety/QOL/dataandmappingnotes.html/#atlasindicators

**Physical Environment**

The physical environment represents the external conditions under which people live, including aspects of service provision and external environmental conditions relating to housing, environmental quality and personal security.

**Housing**

Housing is one of the basic needs for well-being. Poor quality of housing may have adverse effects on health and well-being.

**Indicators**

* Percentage of population living in housing requiring major repairs (inverse)
* Average number of persons per room (inverse)
* Percentage of household incomes with owner’s major payments (or gross rent) for shelter being greater than or equal to 30 per cent of household income (inverse)

**Rationale**

Housing is one of the basic needs of all individuals, and the standard of housing impacts on physical health and well-being. Housing requiring major repairs inversely affects housing quality, while a high number of people per room inversely affects liveability. The third indicator measures affordability: a higher percentage of household income spent on rent or a mortgage impacts inversely on affordability.

Data source: Statistics Canada. 1996 Census of Population. Ottawa: Statistics Canada.

**Accessibility to Services**

Access to services affects well-being, social participation, education, health and employment.

**Indicators**

* Distance from centre of census subdivision to nearest hospital (inverse)

**Rationale**

Accessibility is important to quality of life, as it creates the potential to take advantage of opportunities for upward social mobility, and to access health services, goods and services within the community.

Data source: Canadian Institute of Health Information. 1996. *Special Tabulation*. Ottawa: Canadian Institute of Health Information.

**Environmental Quality**

The quality of the physical environment has effects on well-being, social participation and health.

**Indicators**

* Density of dwellings requiring major repairs per square kilometres (inverse)
* Air quality: measured as total particulate matter emissions (inverse)

**Rationale**

Populations with high spatial concentrations (or densities (for example, the density of dwellings requiring major repairs) inversely influence quality of life, in terms of social behaviour and health, since they 1) inversely impact on the landscape, interfering with the ability to enjoy and appreciate the environment; and 2) result in concentrations of poor housing conditions, thus inversely impacting upon the environment and health. High levels of air pollution may severely impact health.

Data sources: Statistics Canada. *1996 Census of Population*. Ottawa: Statistics Canada. Environment Canada. 1995. *Criteria Air Contaminant Emissions*. Ottawa: Environment Canada, Pollution Data Branch.

**Personal Security**

The quality of the physical environment has effects on well-being, social participation and health.

**Indicators**

* Incidence of personal crime (percentage; inverse)
* Incidence of property crime (percentage; inverse)

**Rationale**

High crime rates inversely influence quality of life, since they have severe effects on social order and on well-being. They also may indicate social alienation.

Data source: Statistics Canada. 1996. *Canadian Centre for Justice Statistics*. Ottawa: Statistics Canada.

**Social Environment**

The social environment represents the external conditions under which people engage in social activity within their community.

**Social Opportunity and Mobility**

The degree of social opportunity affects participation in democratic processes, which invokes a sense of contribution and belonging

**Indicators**

* Ratio of female median income to male median income (direct)
* Male participation rate in workforce (direct)
* Female participation rate in workforce (direct)

**Rationale**

Social opportunity directly influences quality of life, as it creates an environment where opportunities are possible. This is important for social change (or upward mobility) and for individual well-being and self-esteem. Use of participation rates in the work force is based on the assumption that the greater the rates of labour force participation, the greater the social opportunity.

Median income comparisons show social inequality in terms of the opportunity of women to participate in society, based on income earned for their participation in the workforce. Higher values indicate less social inequality between males and females.

Data source: Statistics Canada. 1996 Census of Population. Ottawa: Statistics Canada.

**Leisure and Recreation**

Leisure and recreational activities affect overall well-being and can have a direct bearing on health.

**Indicators**

* Percentage of population with access to leisure-related commercial activities (direct)\*
* Percentage of population with access to libraries (direct)\*\*

**Rationale**

Opportunity for and access to leisure and recreational activities directly influences quality of life, since they are necessary for individual health and well-being.

Data sources: Micromedia. 2003. *Electronic Libraries in Canada Mailing List*, 1996. Toronto: Micromedia. Statistics Canada. *1996 Business Registry*. Special Tabulation. Ottawa: Statistics Canada.

\* Includes all restaurants, bars, hotels, motels and other recreation facilities (for example, campgrounds, sport complexes) from Statistics Canada’s 1996 Business Registry. \*\* Includes all public libraries and other libraries (including branches, university libraries, archives and government libraries) across Canada; does not, however, include libraries located in public schools.

**Participation in the Democratic Process**

Voter participation in democratic processes invokes a sense of contribution and belonging.

**Indicators**

* Percentage of the population that participated in the 1997 federal elections (direct)

**Rationale**

Participation in democratic processes directly impacts on quality of life, since it indicates strong involvement in the democratic process (or sense of social belonging), as opposed to a low participation rate, which may be a sign of alienation from the democratic process.

Data source: Statistics Canada. *1996 Census of Population*. Ottawa: Statistics Canada.

**Education**

Education is important for social mobility, participation and employment opportunity.

**Indicators**

* Ratio of percentage of population with trade/college or university education to percentage of population less than Grade 9 education (direct)

**Rationale**

High educational attainment level directly impacts quality of life, since it is closely linked to the ability to take advantage of employment opportunities and for social mobility.

Data source: Statistics Canada. *1996 Census of Population*. Ottawa: Statistics Canada.

**Social Stability**

Stability is important for overall well-being and can be affected by adverse changes in the social environment.

**Indicators**

* Ratio of percentage of population living in owned housing to percentage of population living in rental housing (direct)
* Percentage of population living at the same address they lived at five years earlier (‘non-movers’; direct)
* Percentage of population who were living at a different address than the one they lived at five years earlier (‘movers’; inverse)

**Rationale**

Lack of social stability inversely influences quality of life, because it suggests a possible breakdown of the social order. Impacts on health and well-being may vary, but can potentially have detrimental long-lasting repercussions for society and the individual. Lower mobility (or change in residence) among the population through time implies greater social cohesion.

Data source: Statistics Canada. 1996 Census of Population. Ottawa: Statistics Canada.

**Access to Health Services**

Health resources make the production of health services possible.

**Indicators**

* Number of physician specialists per thousand people (direct)
* Number of family physicians per thousand people (direct)

**Rationale**

Access to health resources directly influences quality of life, as it directly impacts on quality of health care and the prolongation of life.

Data source: Canadian Institute of Health Information. Physician Data 1996. Ottawa: Canadian Institute of Health Information.

**Health Status**

Health status refers to the state of health of a person, group or population.

**Indicators**

* Incidence of low birth weight per thousand people (inverse)
* Incidence of breast cancer per thousand people (inverse)

**Rationale**

The proportion of low-weight births is recognized as an important indicator of the health and well-being of a population, since there is a close relationship between low birth weight and infant mortality, and therefore an inverse influence on quality of life. High breast cancer rates relate to the distribution of risk conditions, which may suggest possible environmental factors that inversely influence quality of life.

Data source: Statistics Canada. 1996. Custom Tabulation. Ottawa: Statistics Canada.

**Economic Environment**

The economic environment represents the environment in which people work, including aspects of economic status and finances.

**Household Finances**

Household finances affect consumption and thereby impact on access to technology, travel and leisure.

**Indicators**

* Average owner’s major payments (inverse)
* Percentage of income from government transfer payments (inverse)
* Ratio of households in lowest income category to those in highest income category (inverse)
* Percentage incidence of low income families (inverse)

**Rationale**

The level of disposable income directly influences quality of life, as it may be a necessary condition in order to access such services as health, education and the basic necessities of life. Those households that spend a disproportionate amount on accommodation or receive a disproportionate amount of income through government transfer payments experience inverse impacts on quality of life, since they are less able to acquire a wide range of goods and services.

A high proportion of households with low incomes is an inverse influence on the purchasing of more basic needs, and may indicate a nonequitable distribution of access to goods and services among households.

Data source: Statistics Canada. 1996 Census of Population. Ottawa: Statistics Canada.

**Employment/Paid Work**

Income from employment allows for the purchase of goods and services. Employment status may also affect esteem and well-being.

**Indicators**

* Unemployment rate (inverse)
* Ratio of individuals working part year, part time to individuals working full year, full time (inverse)
* Average employment income (direct)

**Rationale**

A high unemployment rate inversely impacts quality of life, since it may influence personal self-esteem, dignity and security; as well, have an impact on the purchasing of more basic needs. The greater the proportion of people working part year, part time relative to those working full-year, full time inversely influences quality of life, since it may indicate the lack of full-time employment opportunities. High average employment income directly influences quality of life, since it can indicate the ability of individuals to purchase a wider range of goods and services.

Data source: Statistics Canada. 1996 Census of Population. Ottawa: Statistics Canada.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2A

**Country Statistic Cards**

Country A

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 99 | 99 | 38,400 | 1.58 | 5.0 | 78 | 84 |

**Observations and Inferences**

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| --- | --- | --- |
| **Evidence**  *What do I notice about the statistics*  *(e.g. males and females have the same literacy rate; very high rates)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
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Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2B

**Country Statistic Cards**

Country B

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| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 81 | 54 | 300 | 6.11 | 80 | 53 | 57 |

**Observations and Inferences**

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| --- | --- | --- |
| **Evidence**  *What do I notice about the statistics*  *(e.g. males have a much higher literacy rat than females; female rate = low)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
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Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2C

**Country Statistic Cards**

Country C

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 88 | 89 | 10,200 | 2.19 | 21.9 | 69 | 76 |

**Observations and Inferences**

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| **Evidence**  *What do I notice about the statistics*  *(e.g. males and females have about the same literacy rate; females slightly higher)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
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Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2D

**Country Statistic Cards**

Country D

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| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 85 | 71 | 20,400 | 3.77 | 11.2 | 74 | 78 |

**Observations and Inferences**

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| **Evidence**  *What do I notice about the statistics*  *(e.g. males have a much higher literacy rat than females)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
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Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2E

**Country Statistic Cards**

Country E

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| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 54 | 41 | 1,600 | 2.65 | 57.8 | 58 | 63 |

**Observations and Inferences**

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| **Evidence**  *What do I notice about the statistics*  *(e.g. both males and females have a low literacy rate; males’ is slightly higher)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
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Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #2F

**Country Statistic Cards**

Country F

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Literacy Rate %  Male Female | | GDP/capita  (US$) | Fertility Rate | Infant Mortality Rate | Life Expectancy  Male Female | |
| 95 | 87 | 6,600 | 1.54 | 16.5 | 73 | 77 |

**Observations and Inferences**

|  |  |  |
| --- | --- | --- |
| **Evidence**  *What do I notice about the statistics*  *(e.g. males have a much higher literacy rat than females; both rates are high)* | **Inferences**  *State and explain your inferences below by referring to:*  *- the evidence in the statistics*  *- your background knowledge* | |
| **Where is the country located?** | **What is life like in this country?** |
|  |  |  |
|  |
|  |
|  |
|  |
|  |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #3

**Assessing Inferences**

Assessment by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Country \_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **Inferences** | | **Evidence**  What evidence and background information was given to support their inference? | **How plausible are these inference?** |
| **Location of country** |  |  | * Very plausible * Somewhat plausible * Implausible * Very implausible |
| **What is life like in that country?** |  |  | * Very plausible * Somewhat plausible * Implausible * Very implausible |
|  |  | * Very plausible * Somewhat plausible * Implausible * Very implausible |
|  |  | * Very plausible * Somewhat plausible * Implausible * Very implausible |
|  |  | * Very plausible * Somewhat plausible * Implausible * Very implausible |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #4

**What can we tell about this country?**

Age structure:

0-14 years: 17.9% (male 128,363,812/female 109,917,641)

15-64 years: 73.4% (male 501,987,034/female 474,871,442)

65 years and over: 8.6% (male 55,287,997/female 59,713,369) (2010 est.)

Birth rate:

12.17 births/1,000 population (2010 est.)

Death rate:

6.89 deaths/1,000 population (July 2010 est.)

Urbanization:

urban population: 43% of total population (2008)

rate of urbanization: 2.7% annual rate of change (2005-10 est.)

Sex ratio:

at birth: 1.14 male(s)/female

under 15 years: 1.17 male(s)/female

15-64 years: 1.06 male(s)/female

65 years and over: 0.93 male(s)/female

total population: 1.06 male(s)/female (2010 est.)

Infant mortality rate:

total: 16.51 deaths/1,000 live births

male: 15.84 deaths/1,000 live births

female: 17.27 deaths/1,000 live births (2010 est.)

Life expectancy at birth:

total population: 74.51 years

male: 72.54 years

female: 76.77 years (2010 est.)

Total fertility rate:

1.54 children born/woman (2010 est.)

HIV/AIDS - adult prevalence rate:

0.1% (2007 est.)

Literacy:

definition: age 15 and over can read and write

total population: 91.6%

male: 95.7%

female: 87.6% (2007)

School life expectancy (primary to tertiary education):

total: 11 years

male: 11 years

female: 11 years (2006)

Education expenditures:

1.9% of GDP (1999)

Source: CIA World Factbook online: https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #5

**Generating Inferences from Statistics**

Data table:

|  |  |  |
| --- | --- | --- |
| Strategies | Data/topics | Possible inferences and explanation |
| Look at individual items and think of implications |  |  |
| Sort data into categories and examine |  |  |
| Think of relevant topics and look for data offering clues |  |  |
| Calculate percentages or create charts or graphs to compare |  |  |
| Think of what is missing from the data and consider possible implications |  |  |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher Backgrounder #3

**Sample Inferences**

|  |  |  |
| --- | --- | --- |
| **Strategies** | **Data/topics** | **Possible inferences and explanation** |
| **Look at individual items and think of implications** | * urban population: 43% of total population * literacy rate: male: 95.7%; female: 87.6% | * over half the population lives in rural areas; agriculture might be an important part of the economy * fewer females are literate but the gap isn’t very large; perhaps this shows relative equality between men and women (although the gap might show some inequality of opportunity or that women are expected to take up household duties at an earlier age and have to leave school) |
| **Sort data into categories and examine** | * literacy rate, literacy definition, school life expectancy | * high literacy rates suggest a strong education system but the definition of literacy seems pretty limited and might unnaturally inflate the literacy rate; this seems likely since the average number of years in school is 11 (i.e. to grade 10 if you include kindergarten) |
| **Think of topics and look for data offering clues** | * gender equality * health | * male and female data across several statistics does not show a lot * relatively low HIV rate + relatively high life expectancy and low infant mortality rate suggest that access to health care might be good |
| **Calculate percentages or create charts or graphs to compare** |  |  |
| **Think of what is missing from the data and consider possible implications** | * no data on income * no information on languages spoken, religion | * some statistics seem to suggest a developed nation (low birth rate, high life expectancy, high literacy rates); income per capita might help provide further clues * this information might help us decide what part of the world this country might be in |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blackline Master #6

**Developing a country profile**

|  |  |  |
| --- | --- | --- |
|  | **Possible inference** | **Relevant evidence** |
| **Location** |  |  |
| **Social** |  |  |
| **Economic** |  |  |
| **Political** |  |  |